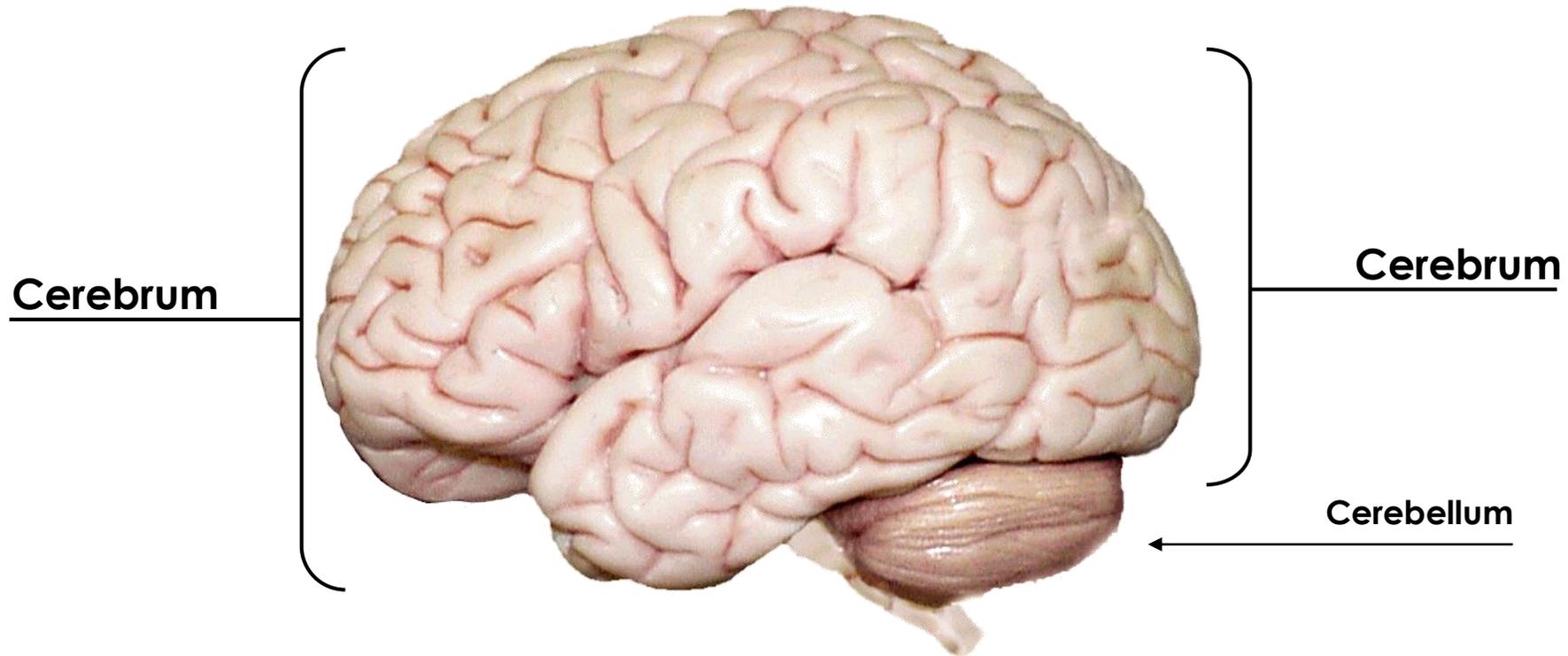
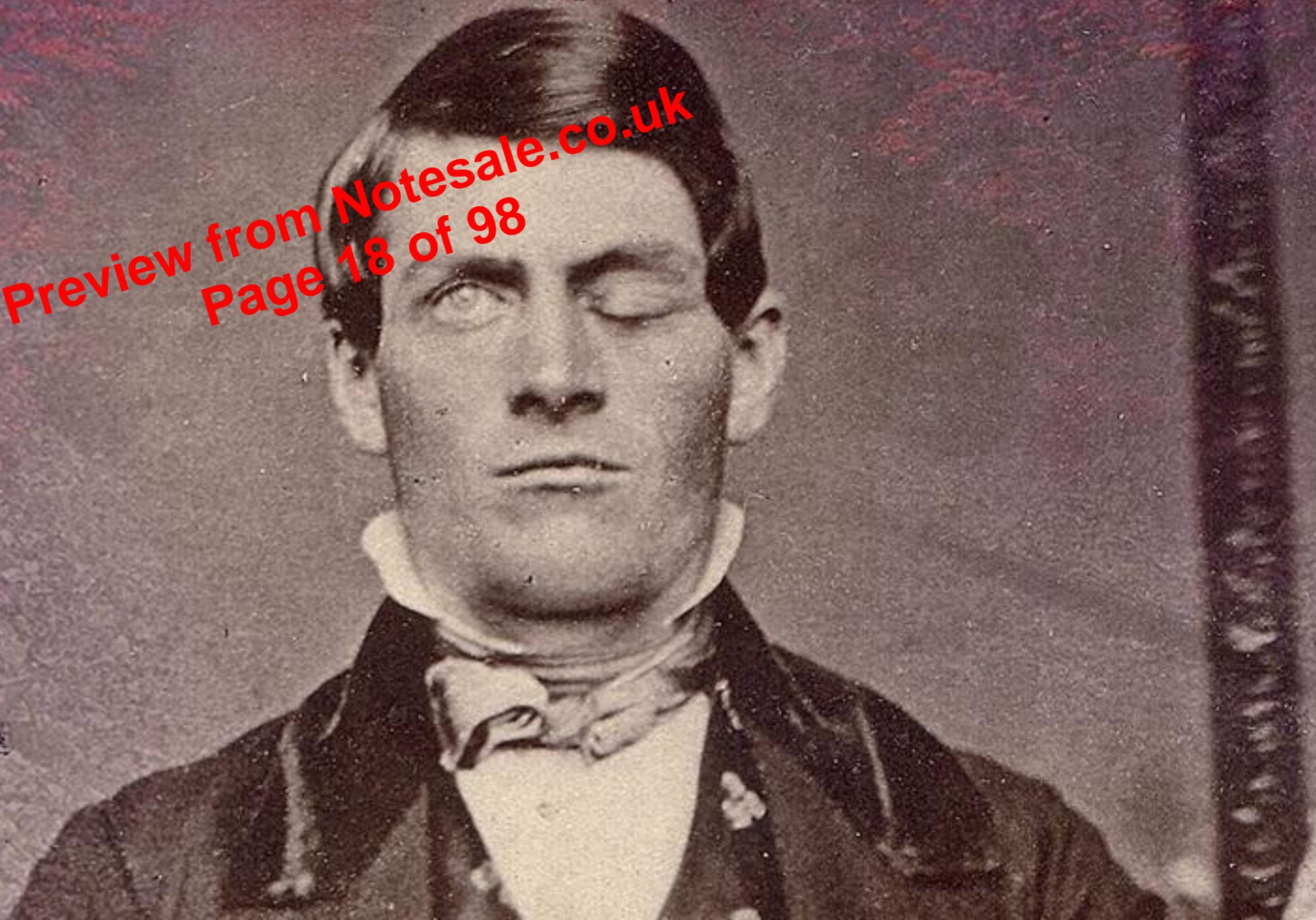


CEREBRUM

The largest division of the brain. It is divided into two hemispheres, each of which is divided into four lobes.



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ALIEN HAND
Syndrome

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WERNICKE'S APHASIA

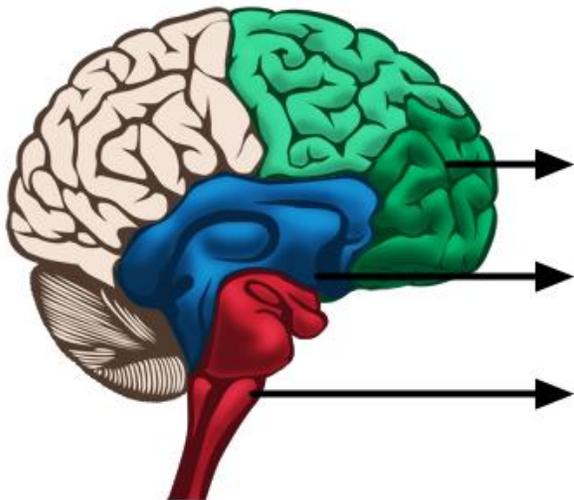
REPTILIAN BRAIN

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The oldest of the three, controls the body's vital functions such as heart rate, breathing, body temperature and balance.

- Our reptilian brain includes the main structures found in a reptile's brain: the brainstem and the cerebellum. The reptilian brain is reliable but tends to be somewhat rigid and compulsive.

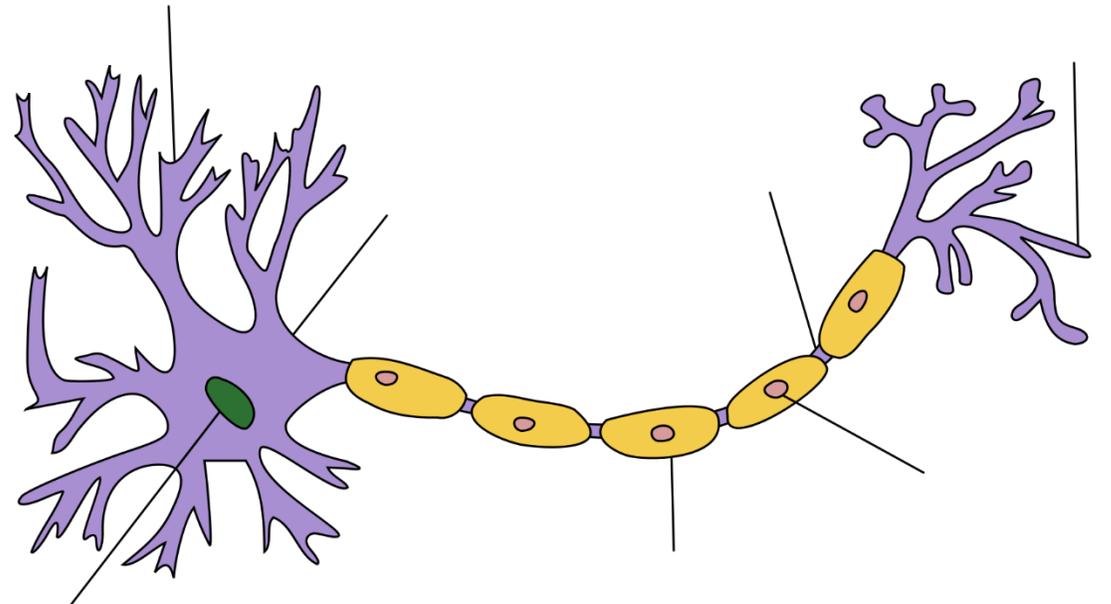
- ***“survival state”, “fight or flight”,***



REPTILIAN BRAIN

AXON

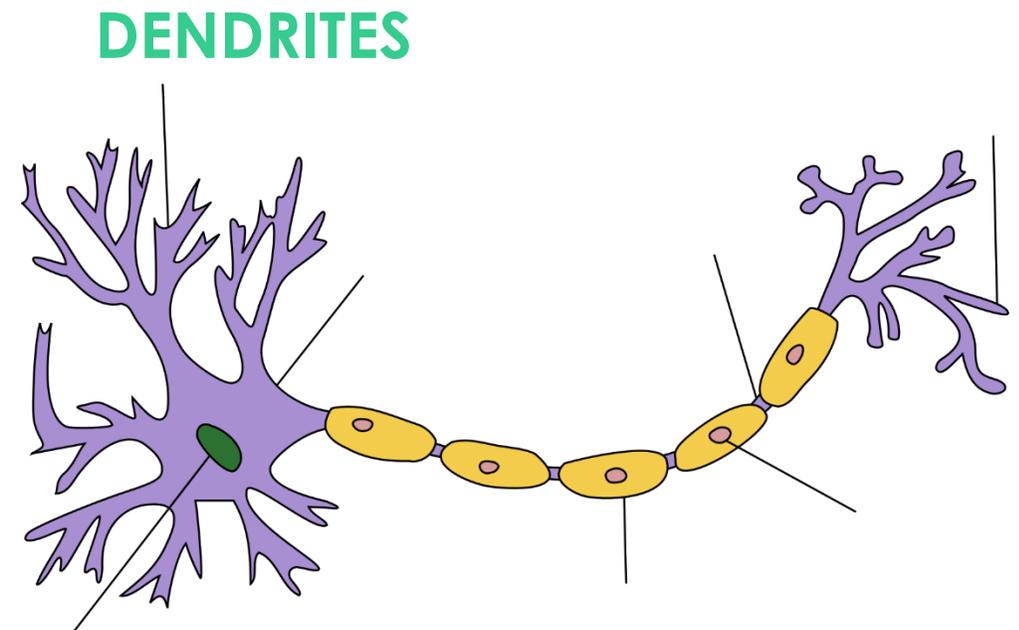
- the main conducting part of the neuron, **capable of conveying electrical signals** along distances that range from as short as 0.1 mm to as long as 2 m.
- many axon split into several branches, thereby conveying information to different targets.

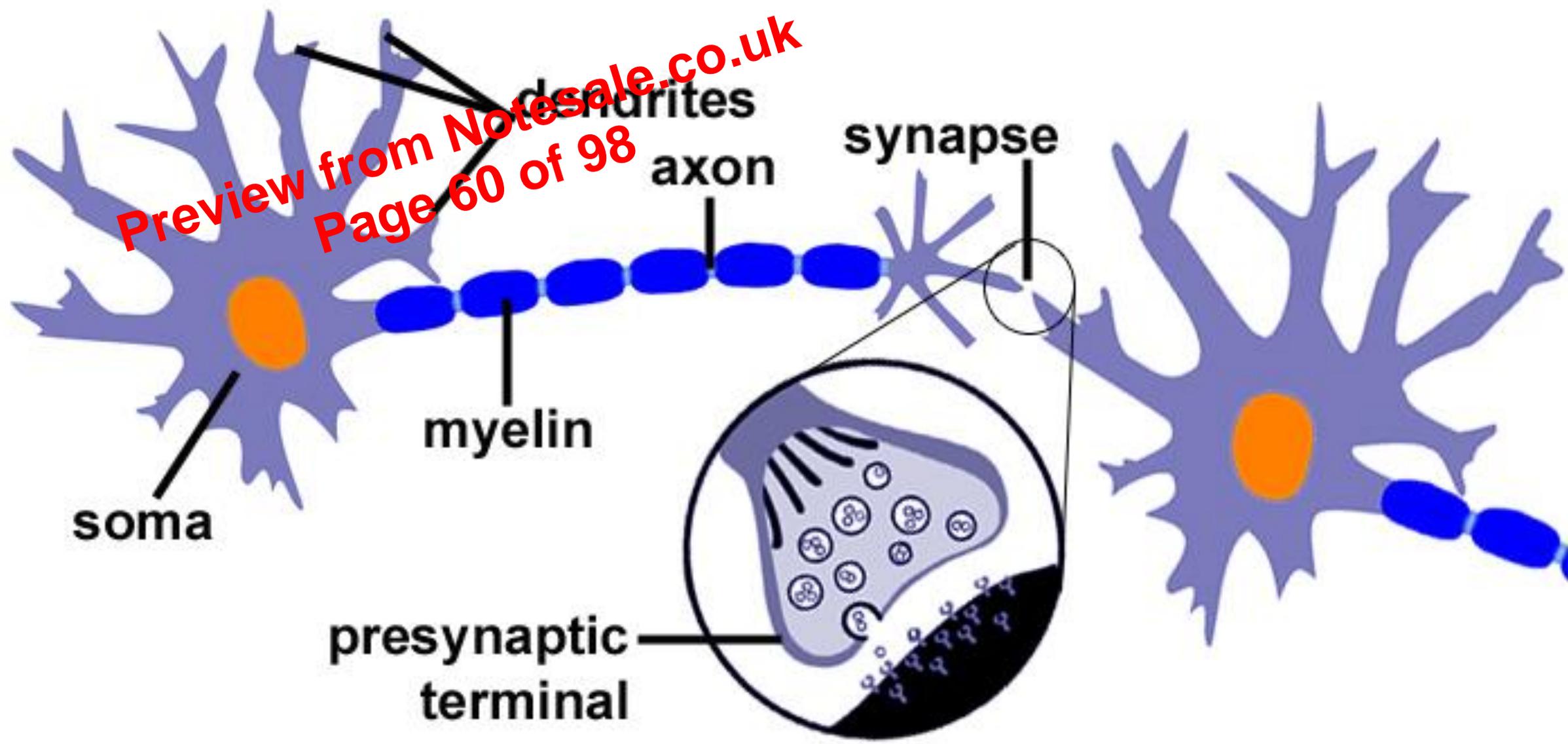


DENDRITES

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- These structures branch out in treelike fashion and serve as the main apparatus for **receiving signals from other nerve cells.**
- They function as an "**antennae**" of the neuron and are covered by thousands of synapses.
- The dendritic membrane under the synapse (the post-synaptic membrane) has many specialized protein molecules called receptors that detect the neurotransmitters in the synaptic cleft.





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soma

dendrites

axon

synapse

myelin

presynaptic terminal

NEUROTRANSMITTERS **VS** HORMONES

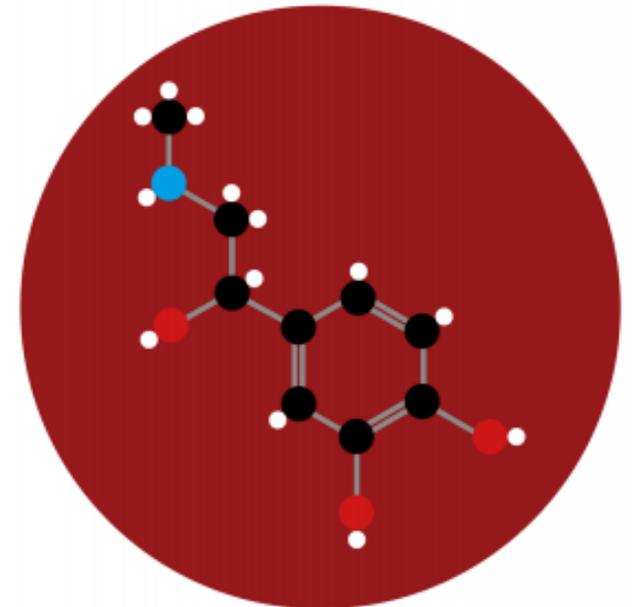
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SYSTEM	Nervous System	Endocrine System
TRANSMISSION	Across synaptic cleft	Blood
ORIGIN	Neurons	Endocrine glands
TARGET CELLS	can be specific neurons or other cells	can be some distance from endocrine gland
ACTION	Extremely fast	Not that fast
LASTING EFFECTIVITY	Short-lasting (millisecond)	From few seconds to few days
EFFECT on the TARGET	Able to stimulate postsynaptic membranes	Able to regulate target organ
	Can be synthesized outside the body	Cannot

ADRENALINE/EPINEPHRINE

THE FIGHT OR FLIGHT NEUROTRANSMITTER

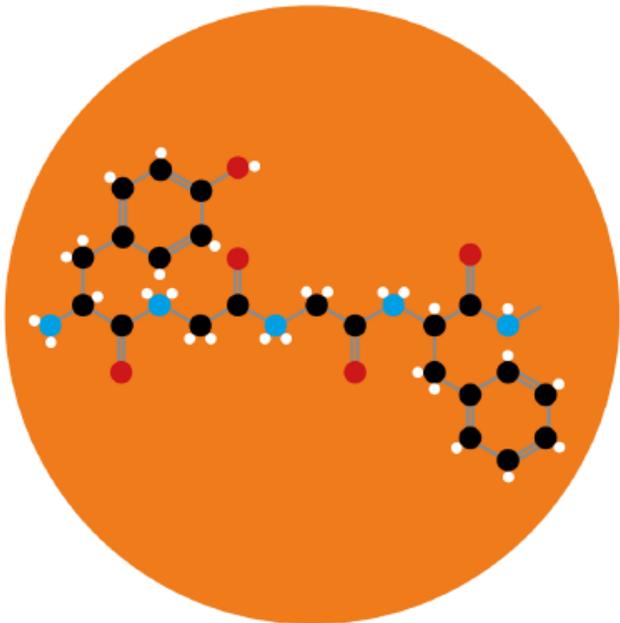
- also known as epinephrine
- hormone produced in high stress or exciting situations.
- Increased of heart rate, contracts blood vessels, increase blood flow to the muscles and oxygen to the lungs
- Leads to physical boost and heightened awareness



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THE EUPHORIA NEUROTRANSMITTER

- reduces the perception of pain and acts similarly to drugs such as morphine and codeine (pain killers)
- they are released in the brain during exercise, excitement, pain, and sexual activity, and produce a feeling of well-being or even euphoria



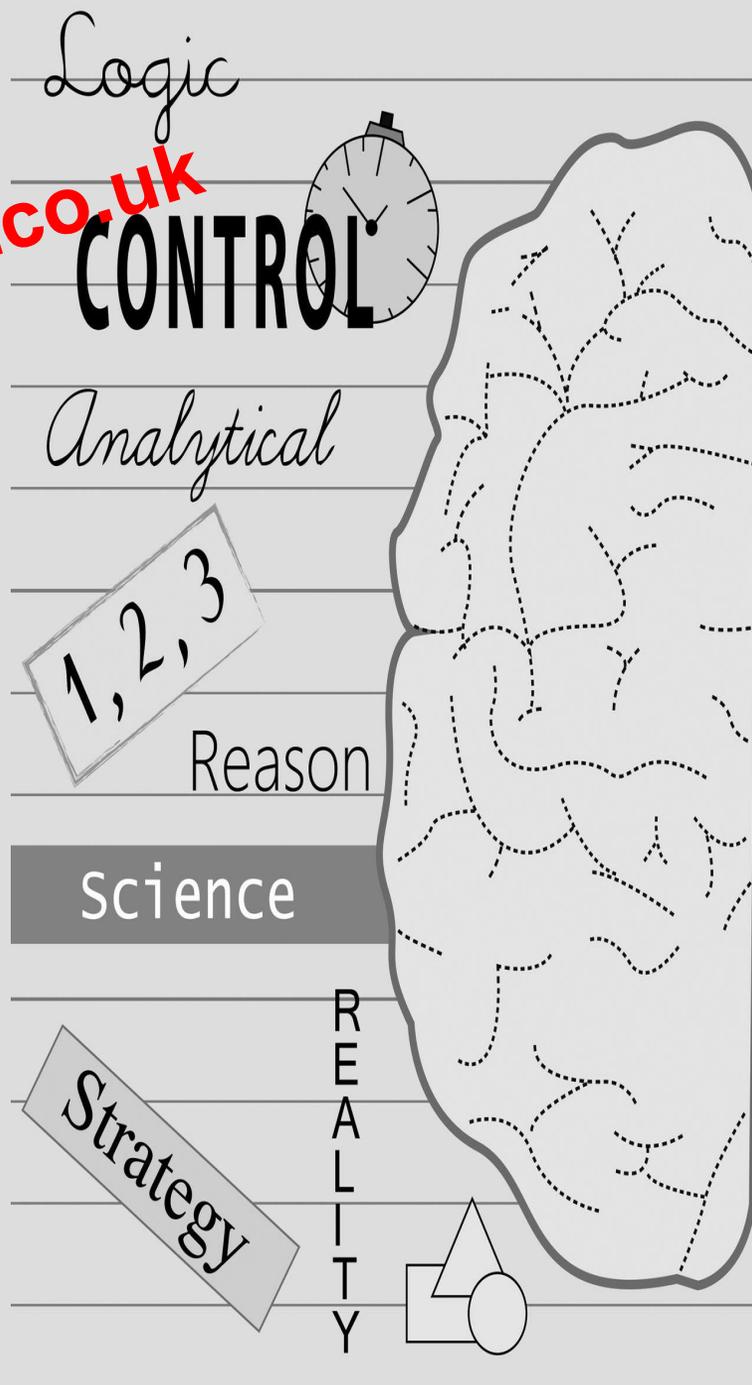
THINKING THEORIES

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Brain Dominance Theory

Whole-Brain Theory

Multiple Intelligence



Brain Dominance Theory

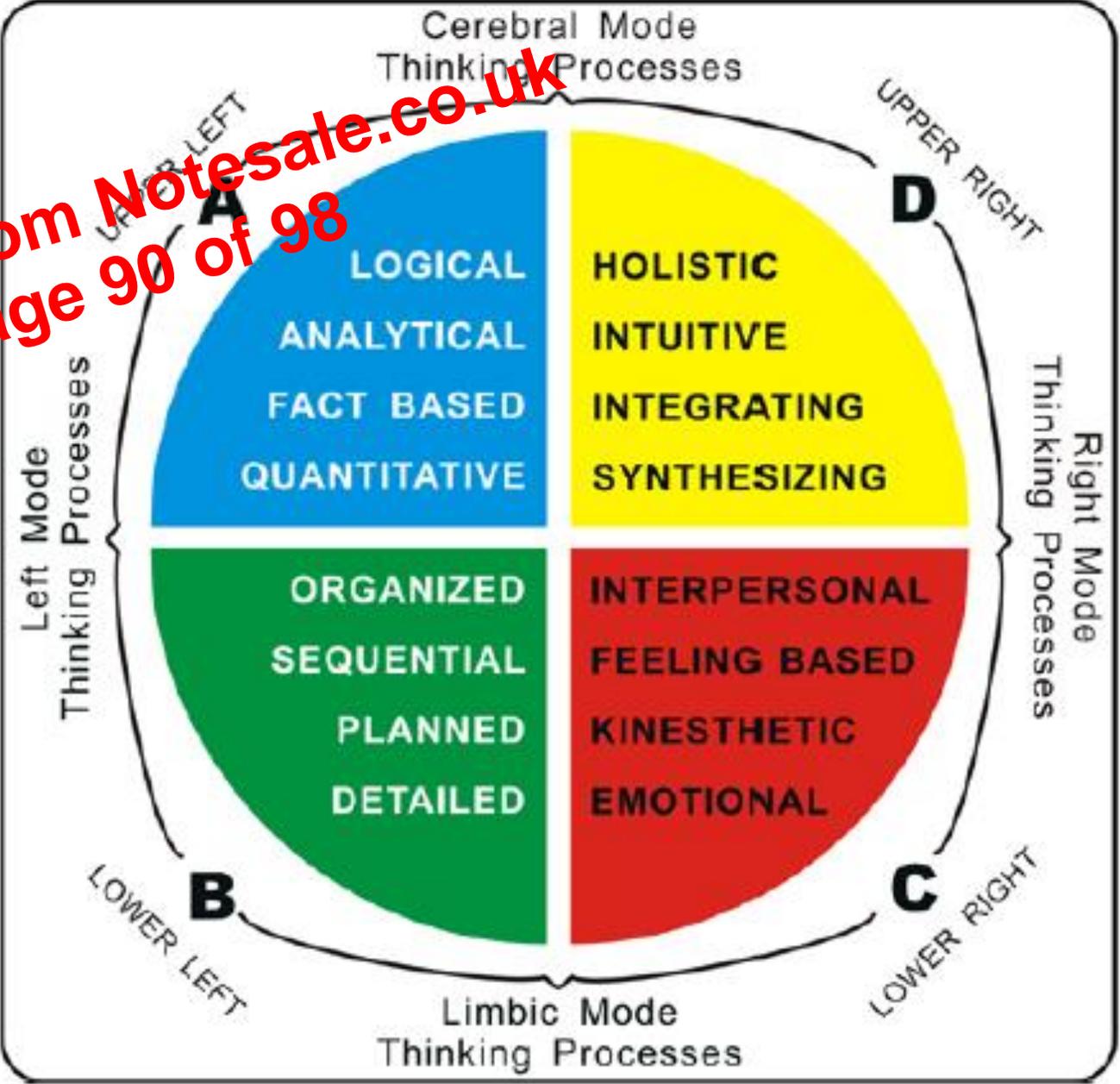
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Debunking the Brain Dominance Theory

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There is no strong neurological evidences that supports localization of, even basic, cognitive functions in this way in hemisphere.

WHOLE BRAIN MODEL



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Multiple Intelligence